THE VERTICAL FACE **EARTHSHIP** PLAN OPTION BOOK

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Vertical Glass Earthship Drawing Set

ARCHITECTURAL DRAWINGS 24" x 36"
A1 Floor Plan, **Framing Elevation, Footing Elevation**
A2 Structural North/South Section
A3 Mechanical North/South Section

PLAN OPTIONS
Nest / One Bedroom
Two / Three bedroom
Open end / Garage Option
Split Level
1/4" Generic Two Bedroom

CONSTRUCTION DETAILS 8 1/2" x 11"

SECTION ONE - Layout, Excavation and Tire Work
S - Site layout
S1 - Excavation Plan and Layout
S2 - Site section
S3 - Excavation Perspective
S4 - Tire Layout Perspective
S5 - Typical Tire Wall and Plate Anchor
S6 - Tire Wall and Plate Anchor Condition 1
S7 - Tire Wall and Plate Anchor Condition 2
S8 - Typical East/West Tire Wall Conditions 1&2
S9 - Tire Wall Perspective
Support Data

SECTION TWO - Front Face Footing & Framing
F - Tire Plate and Footing Overview
F-1 Footing Plan and Elevation
F-2 Window Sill Detail
F-3 Door Sill Detail
F-4 Typical Window Box Details
F-5 Door Box Installation Details
F-6 Overview of Boxes and Plates
Support Data

SECTION THREE - Roof Enclosure
R1 - Tire Plating Layout
R2 - Truss Framing Layout
R3 - Truss Attachment North
R4 - Truss Attachment South
R5 - Battery Box Construction
R6 - Battery Box Installation Details
R7 - Skylight Box details
R8 - Skylight Operable Lid Construction
R9 - Roof Insulation Details
Support Data

SECTION FOUR - Button up
J1 - Jamb at operable window
J2 - End Jamb at Fixed Glass
J3 - Jamb at Door and Operable Window
J4 - Jamb at Door and Fixed Window
J5 - Sill Detail Below Operable Window
H1 - Head Detail at Fixed Glass
H2 - Head Detail at Operable Window
H3 - Head Detail at Door
H4 - Typical Mullion Detail
H5 - Overview

SECTION FIVE - Mechanical
P1 - Drainage Plan
P2 - Water Supply
P3 - Cistern
P4 - Cistern Bulkhead
P5 - Cistern Installation Condition 1
P6 - Cistern Installation Condition 2
E1 - DC Electrical
E2 - AC Electrical

These are the sections of the construction drawing set for building and obtaining a permit for the vertical face Earthship. See last page for ordering information

SPECIFICATIONS

1000 Square Feet   (2 bedroom).

Available in efficiency sizes starting at 600 square feet. Also available in 1 to 4 bedroom sizes with two bathrooms and garage.

Construction drawings available for permit in any state and simplified for owner builders.

Aprox. $75,000 with conventional grid utilities.
Aprox. $85,000 with off grid systems.

Solar electricity with capabilities of wind, gas generator or line grid back up.

Roof catchment water system with capability of well or community water back up.

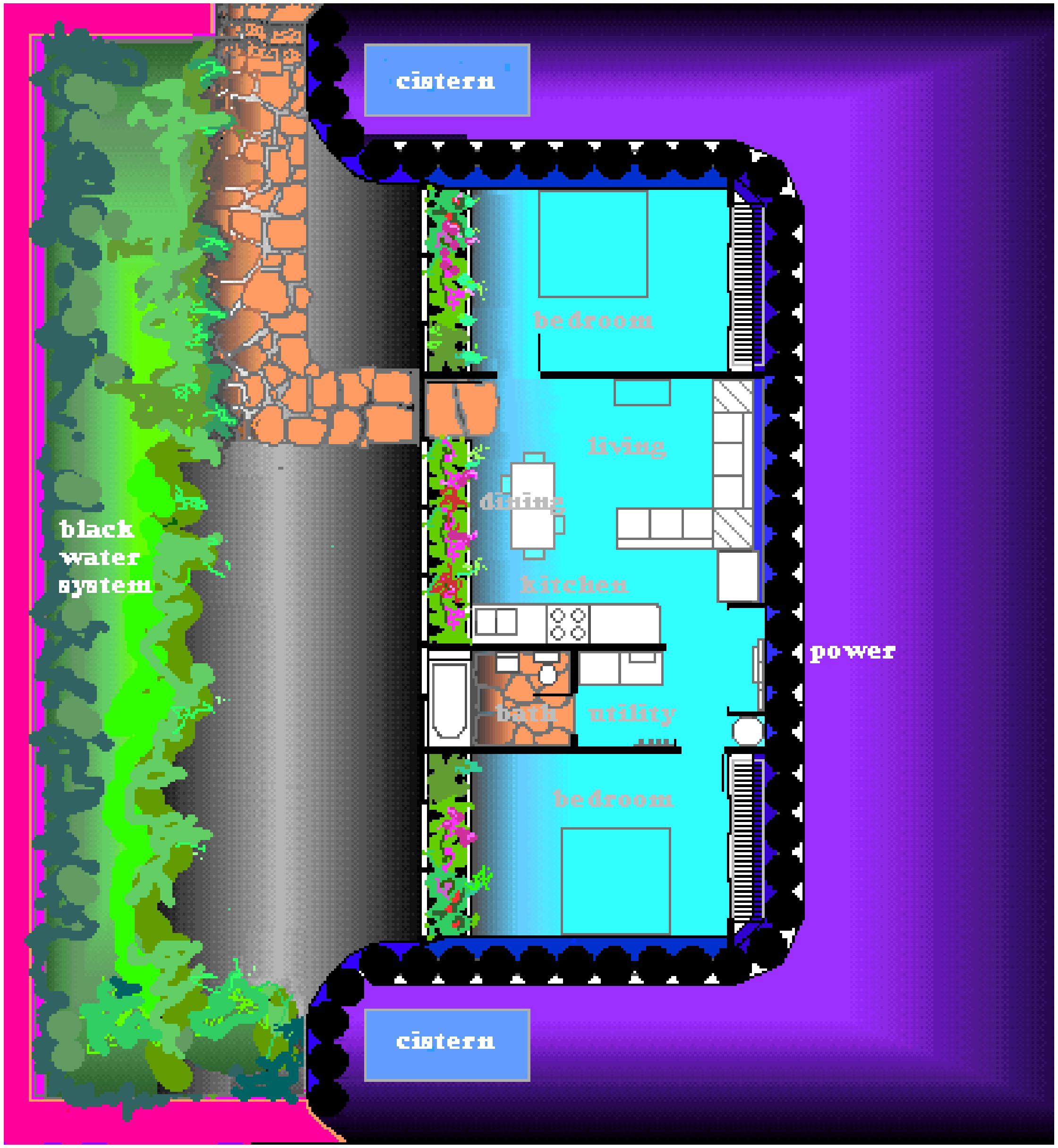
Contained grey water and black water treatment and distribution system with capability of conventional septic or community sewage connection.

Solar - thermal heating and cooling with gas back up.

Gas on demand   hot water with capability of solar hot water addition.

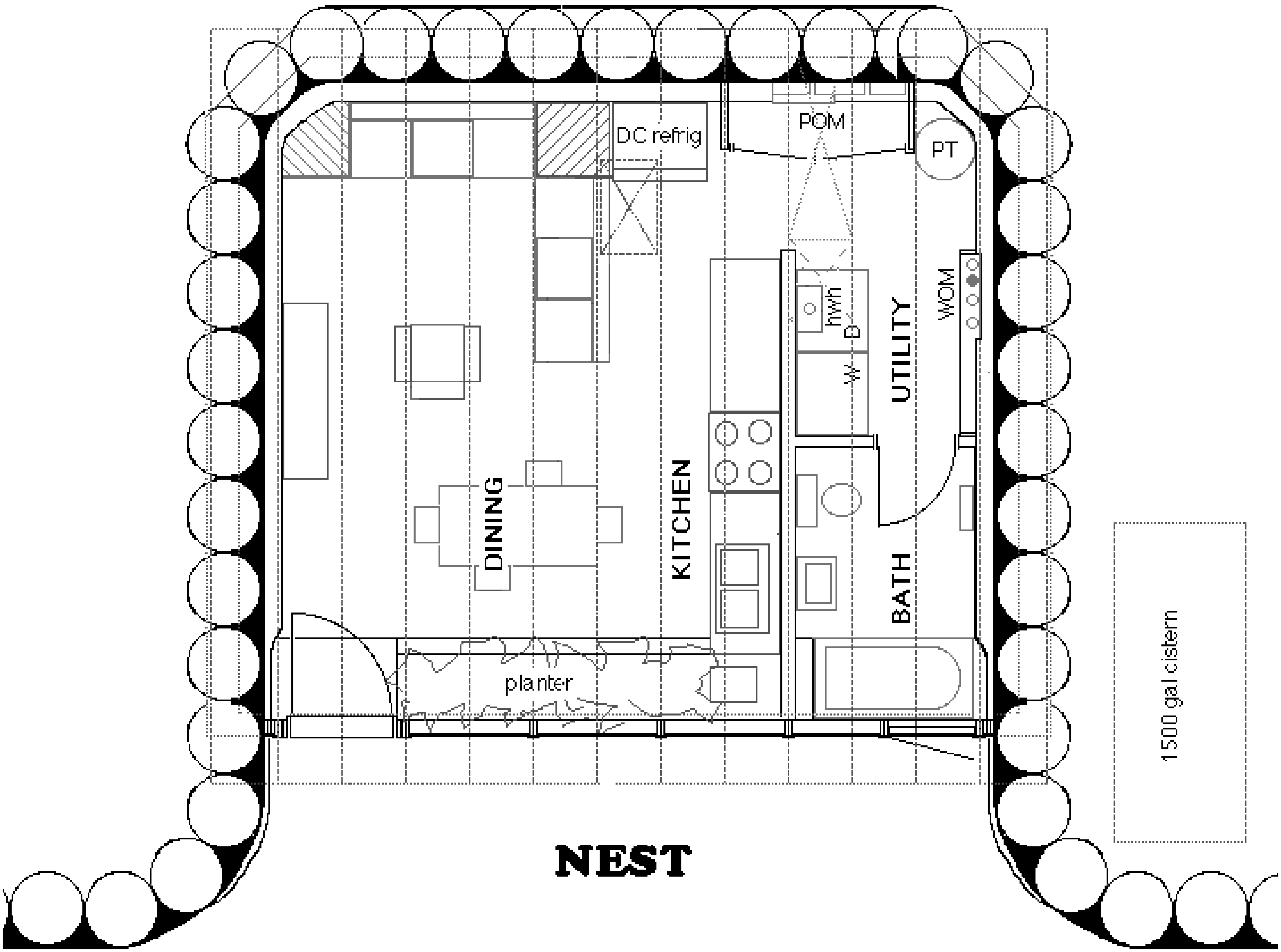
Gas cooking.   Little or no utilities.   Low Maintenance.

Construction components kits available.

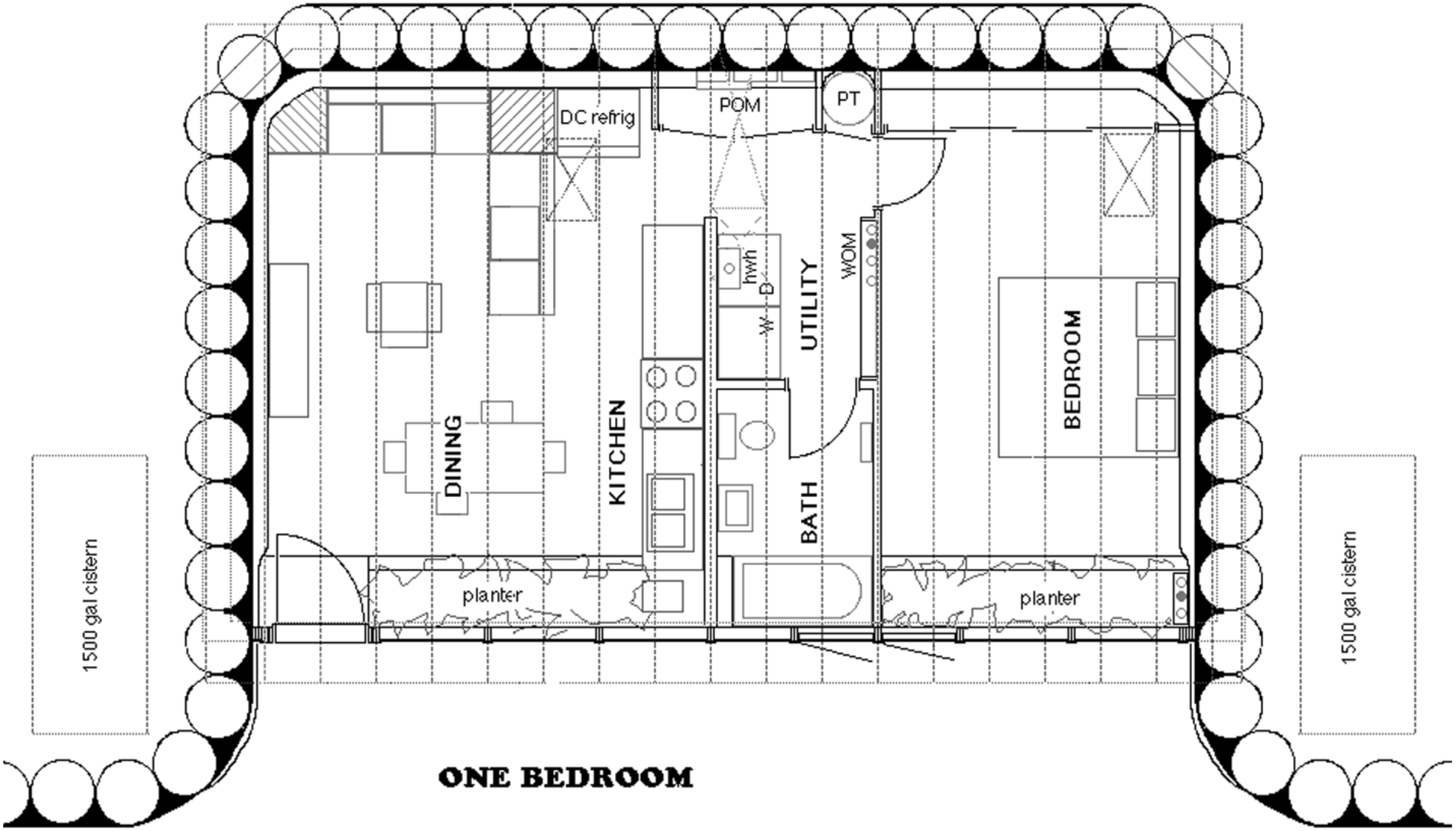


THE VERTICAL FACE EARTHSHIP

Built of earth-rammed tires.
Also available built of straw bale, concrete, or adobe at extra cost.


DC refrig
POM
PT
hwh
D
W
WOM
UTILITY
DINING
KITCHEN
BATH
planter
1500 gal cistern

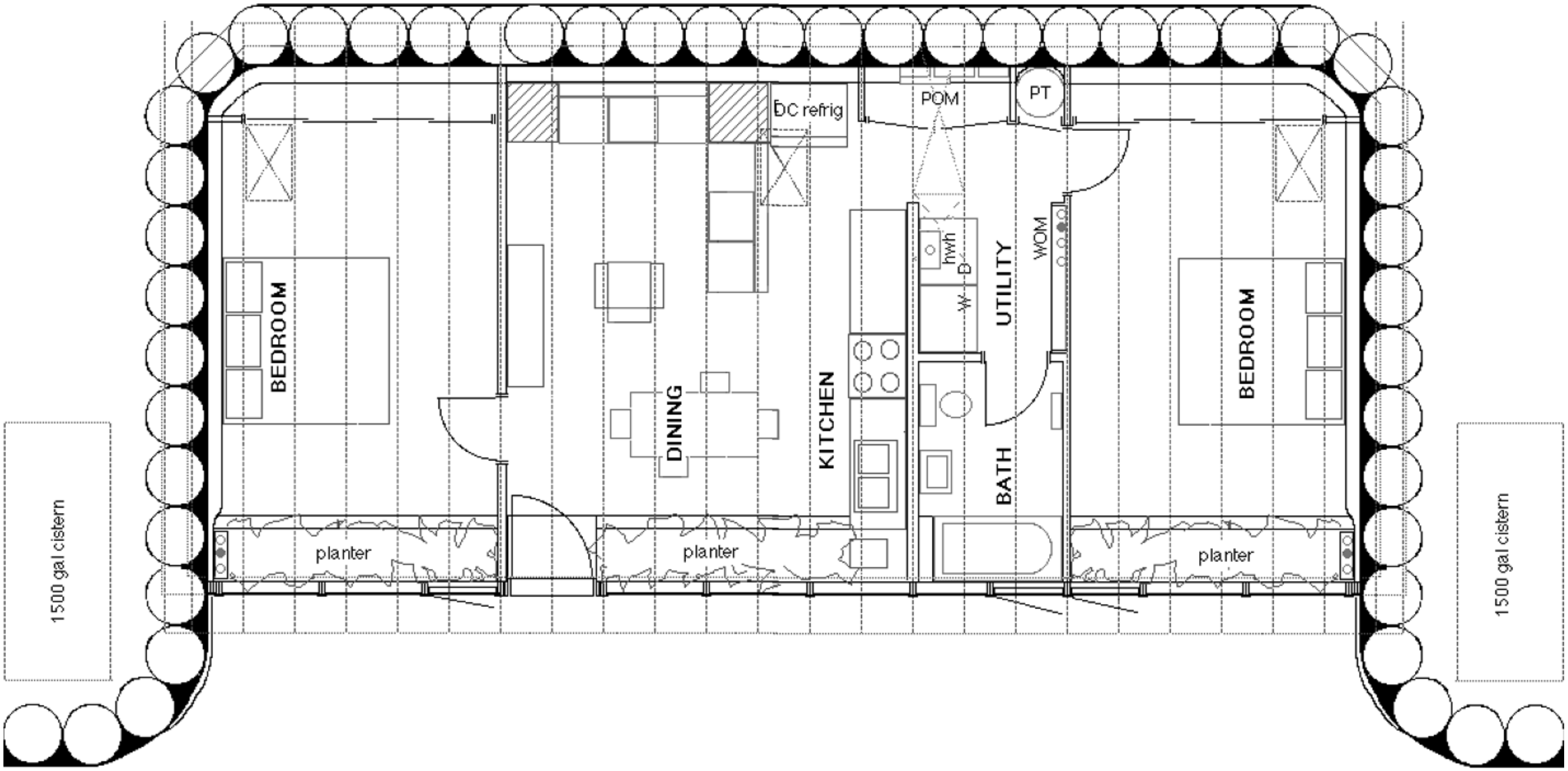
NEST



ONE BEDROOM

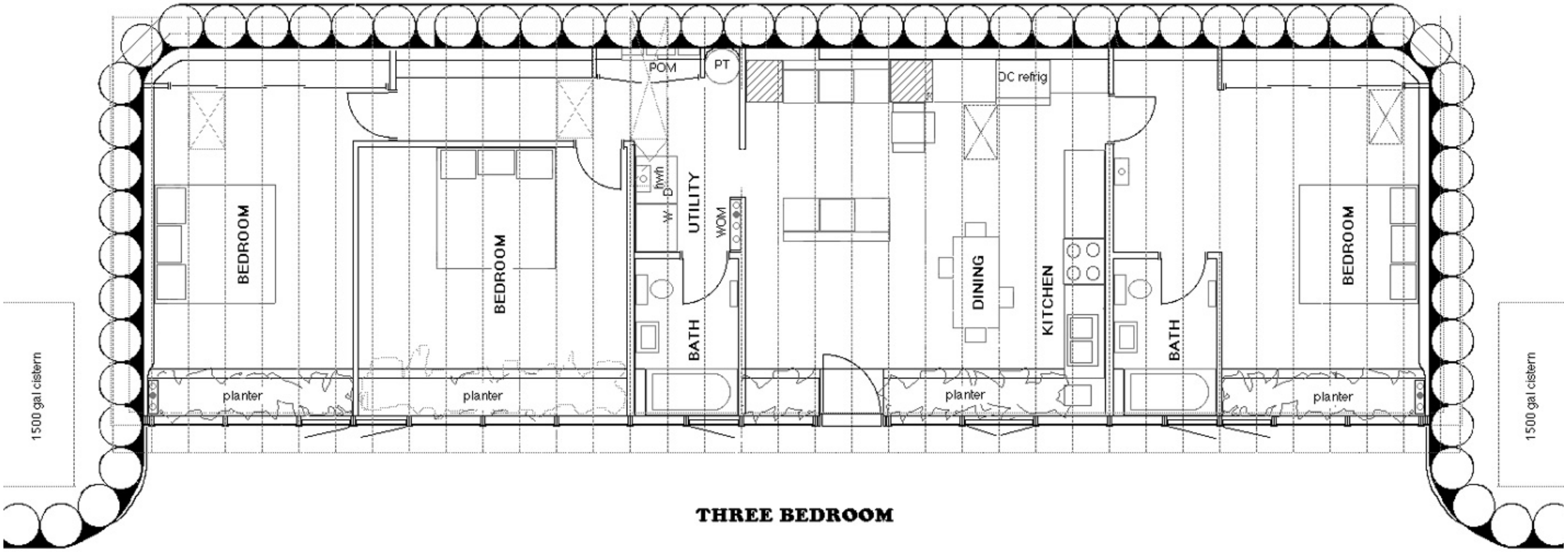
The nest plan at left is the minimum application of the vertical face concept. It is approximately 600 square feet. It is a good first phase beginning. It is easy to add on to this building later. See options pages that follow.

The one bedroom above is approximately 800 square feet. Both these plans can have any of the options that follow in addition to east/west room size changes.

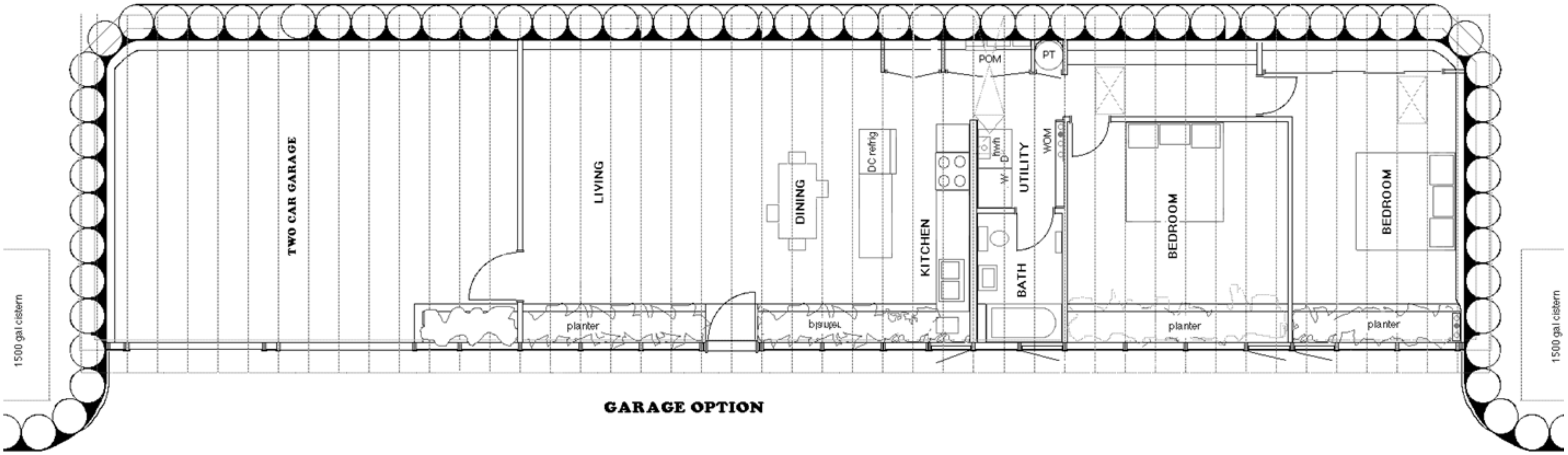


Two bedroom high performance vertical face Earthship

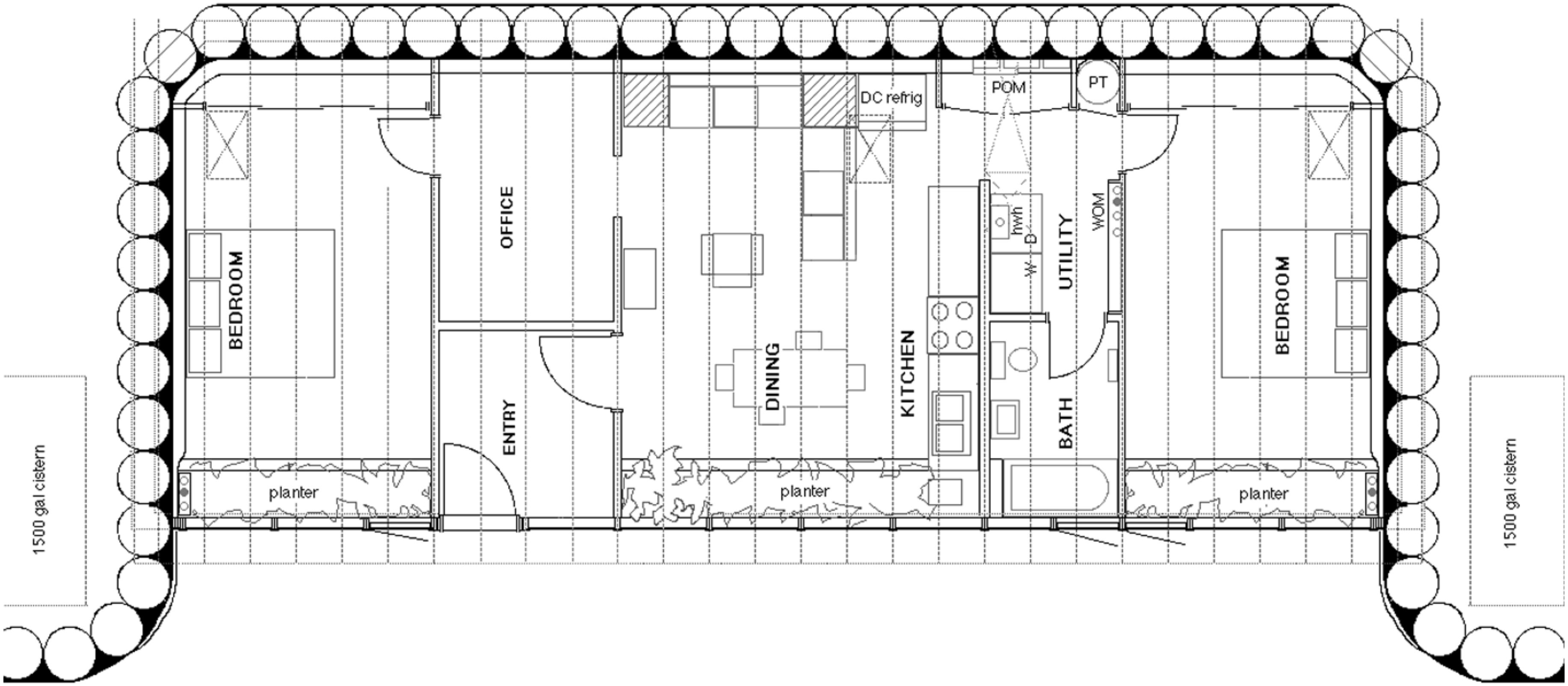
This is the minimum sized two bedroom unit. It is approximately 1000 square feet. It can be increased in size by adding to any room horizontally (east/west) in 2'- 0" increments. In order to maintain high performance both in terms of function and cost, no increase in size is reccommended in the vertical (north/south) direction.



THREE BEDROOM



GARAGE OPTION

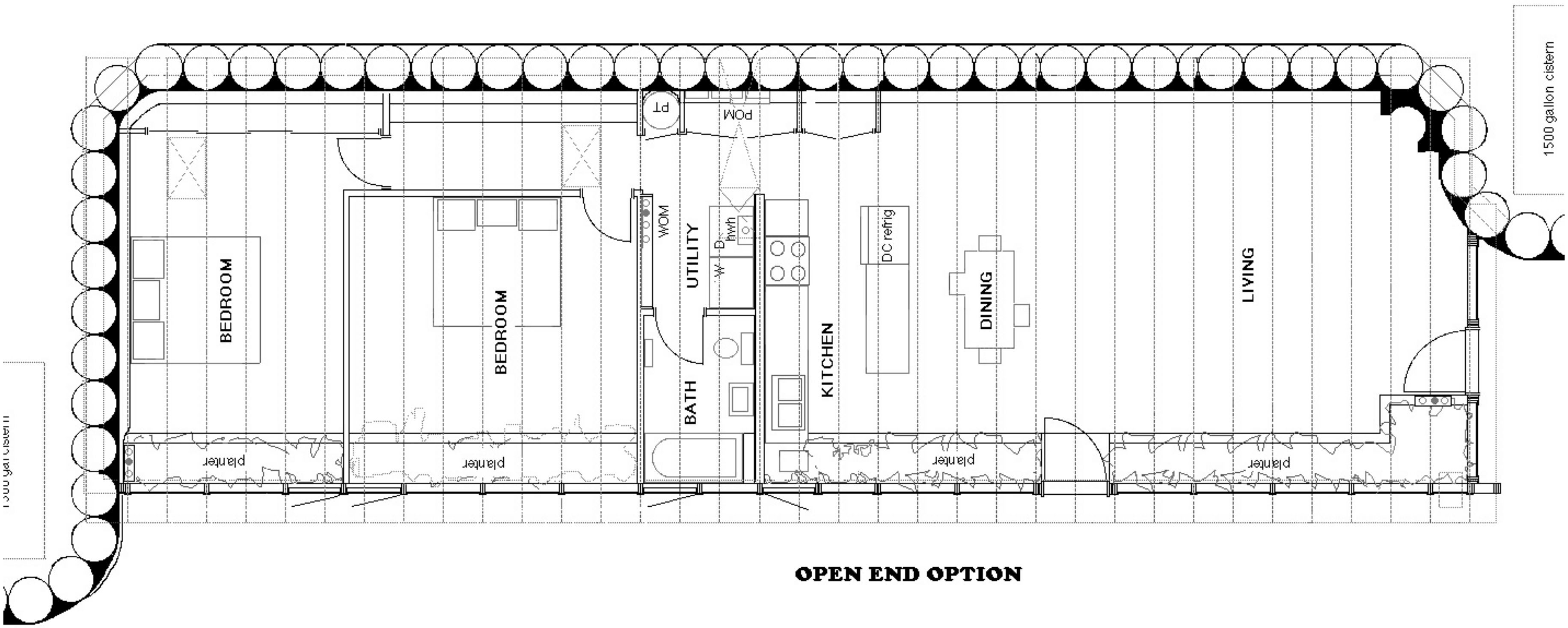


Tailored Options

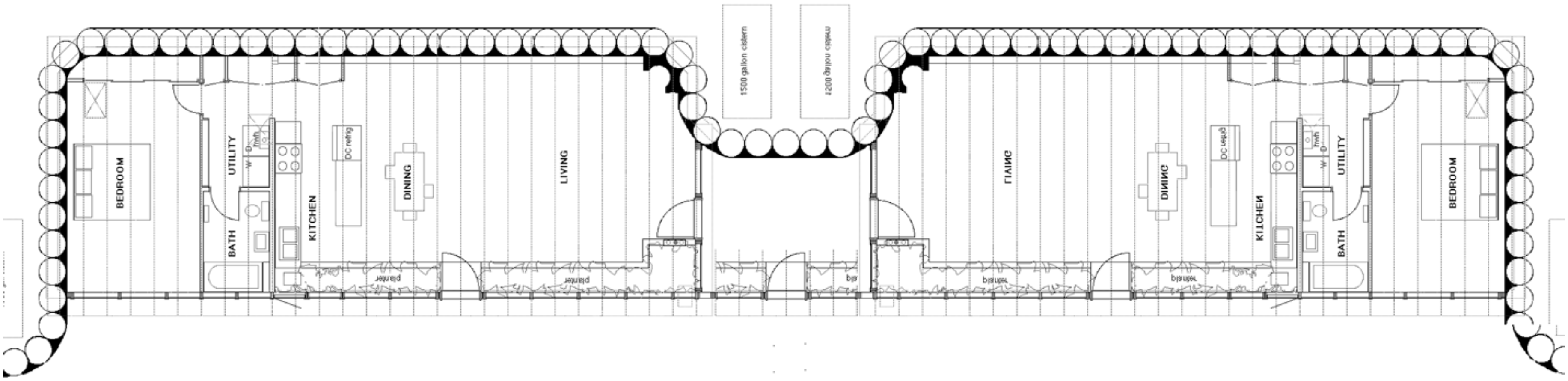
Many options are possible that are already designed considering the high performance plans. Any of these options can be placed in to any plan with a small tailoring fee added to the base price of the high performance construction drawings.

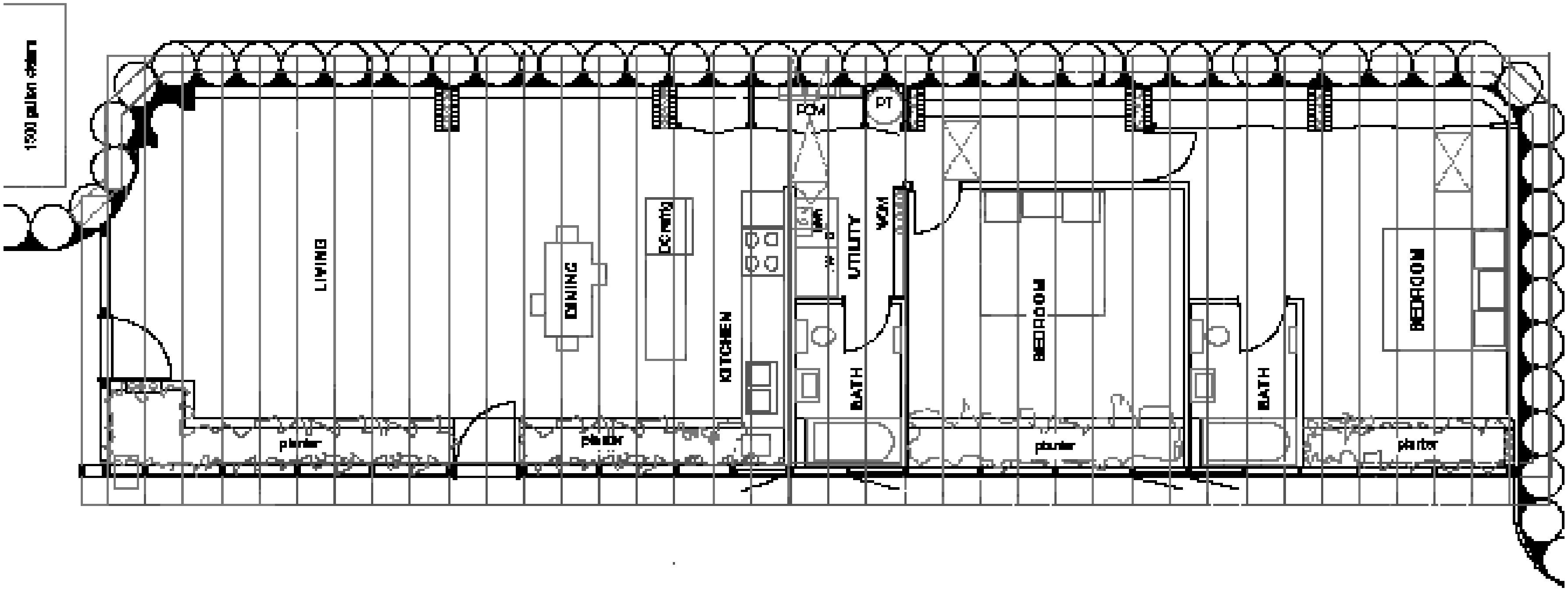
The option shown above illustrates an air lock that can work in any high performance plan. The office option can also work in any plan with or without the airlock.

The option at top right illustrates the open end which is sometimes desired for view or outdoor orientation. This option can also facilitate a phased building approach and or a duplex situation as shown at bottom right



OPEN END OPTION



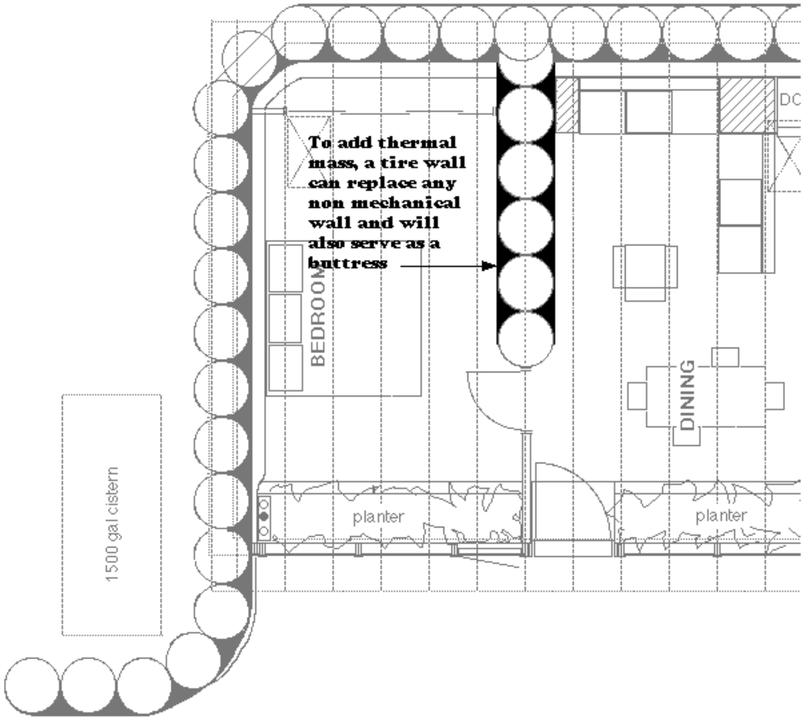


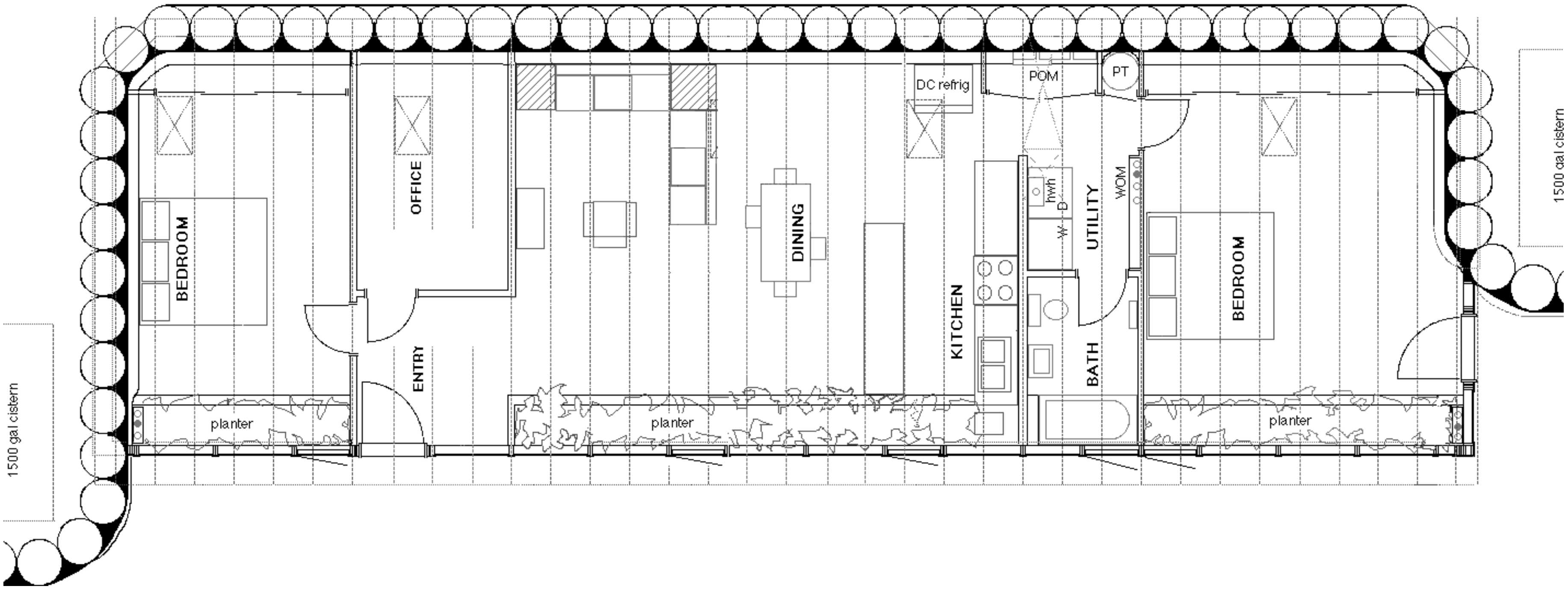
Two bathroom option

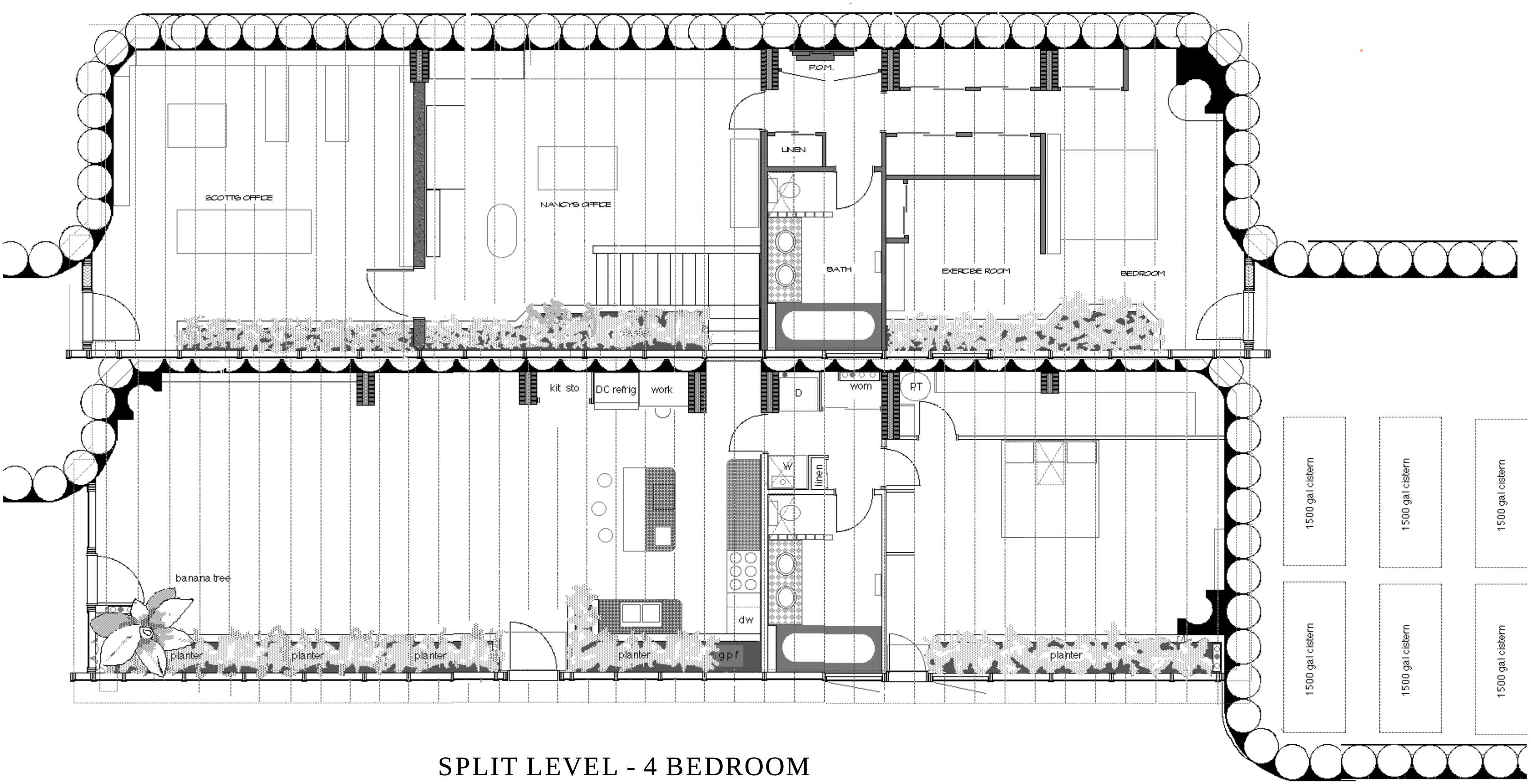
This option also illustrates the masonry buttresses that are necessary on the north wall when full height tire walls are necessary. Full height tire walls are necessary in instances when the building can not be recessed into the earth because of rock or high water tables.

The option at top right illustrates the use of massive tire walls for room dividers similar to the sloped face Earthship. These massive tire walls provide buttresing for full height tire walls as well as addition thermal mass when needed in very cold or very hot climates. This adds marginally to the cost of the building.

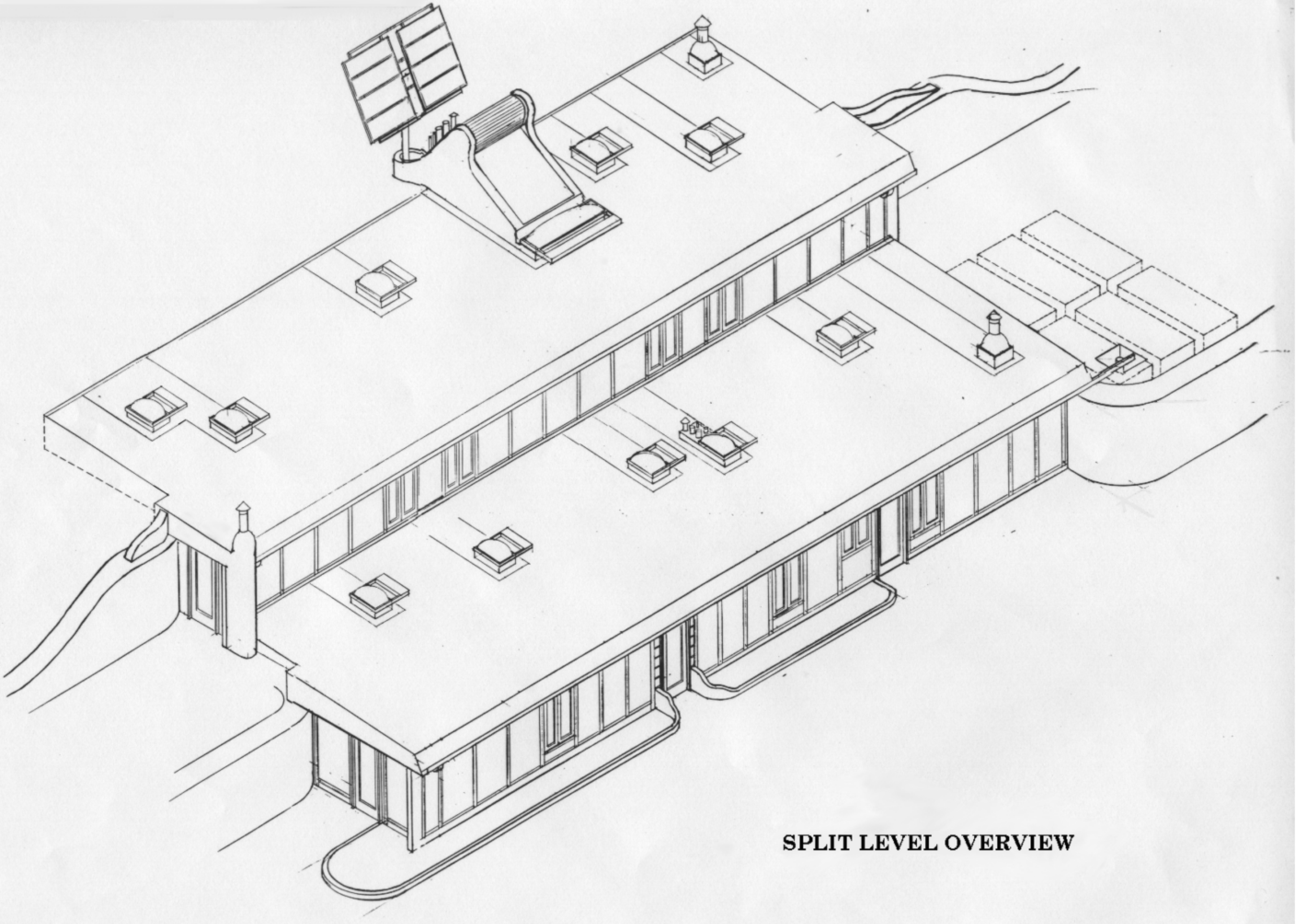
The option at bottom right is a popular open east end model with office/den space.


DC
To add thermal mass, a tire wall can replace any non mechanical wall and will also serve as a buttress
BEDROOM
DINING
1500 gal cistern
planter
planter

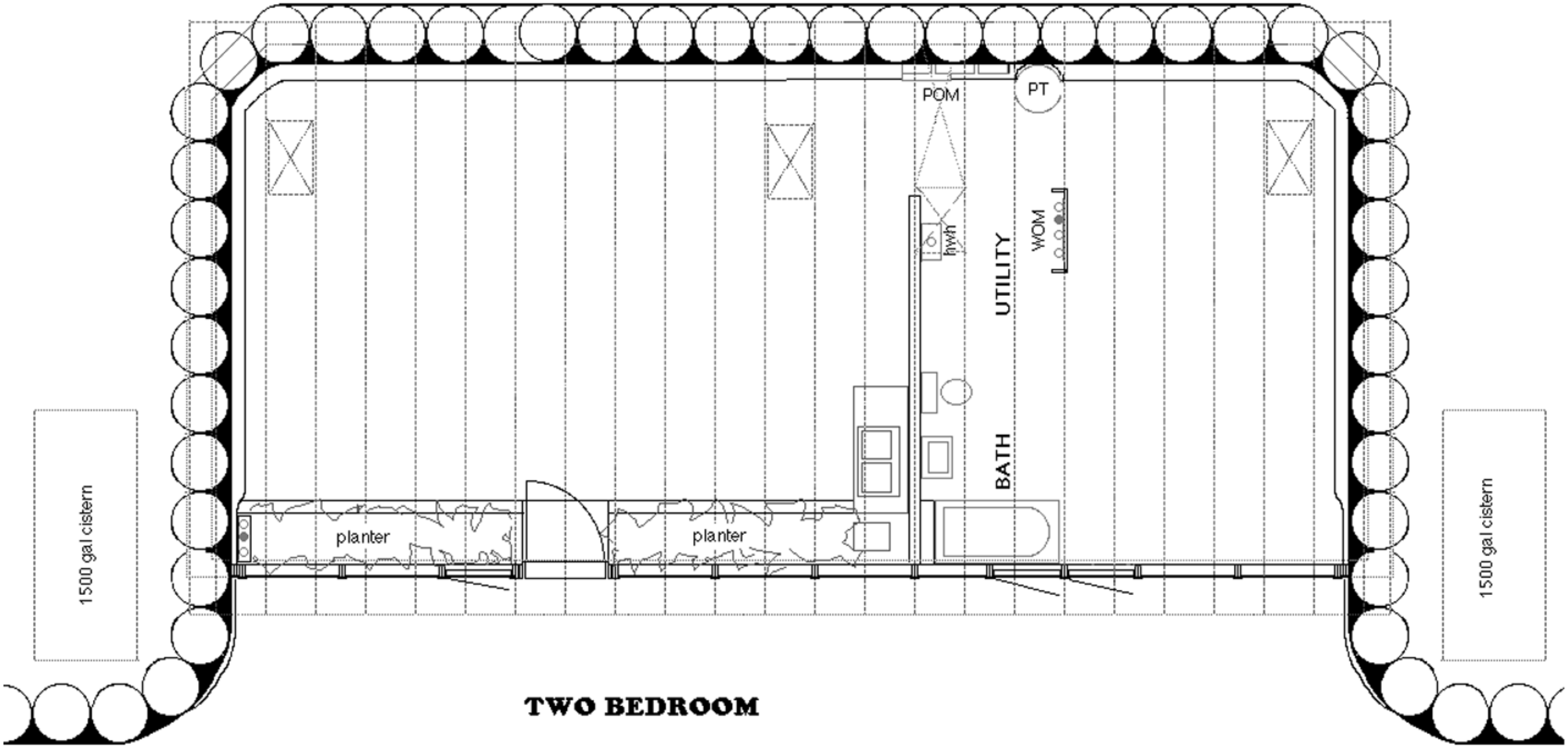

OFFICE
BEDROOM
ENTRY
DINING
DC refrig
POM
PT
hwh
W
D
UTILITY
WOM
KITCHEN
BATH
BEDROOM
1500 gal cistern
planter
planter
planter
1500 gal cistern



SPLIT LEVEL - 4 BEDROOM
APPOXIMATE BUILT SQUARE
FOOTAGE: 3354 SF



SPLIT LEVEL OVERVIEW



TWO BEDROOM

SHELL AND SYSTEMS

Solar Survival often builds the “shell and systems” of a vertical face Earthship. This allows the owner to complete the interior finishes and save significantly on expenses. The plan above is an illustration of what the shell and systems includes. The building is totally finished on the outside with all systems functional. No interior work is done except that which is necessary to get the systems working inside. No floors; no interior walls, cabinets or doors; no plaster; no ceiling treatment. These things are easy for the owner/builder to accomplish with local talent. The structure of the building and the functional systems are done by the experts from SSA as a packaged project. Water catch systems are working; sewage systems are working and all plumbing fixtures work. Power is avaiable at the POM (DC and AC) with no switches or outlets in the rooms until the owner completes finishes. This leaves the owner/builder with a fully functional, but unfinished home for much less than a turn key project.

SHELL AND SYSTEMS COMPLETED

The picture above illustrates a two bedroom vertical face Earthship just completed as shell and systems. Now the owner/builder can execute the finishes at his/her convenience.

WHAT IS AN EARTHSHIP?

... an overview of our information, buildings and services

EXPERIENCE

For people considering building an Earthship, those interested in retrofitting an existing building with off -grid systems or students of sustainability, Solar Survival offers a broad range of information to suit your needs.

To get a thorough understanding of Earthships and their integrated systems we recommend you learn as much as you can. Start by checking out our website at www.earthship.org. , visiting our Press Office, or viewing the Weaver Video. Consult our Earthship Books and Chronicles for a comprehensive overview of tire construction and passive solar building, photovoltaics, catch water and waste water treatment systems. For Earthship news and updates on techniques and systems subscribe to the Earthship Log, our quarterly journal.

Nightly Earthship rentals are available for you to experience self-sufficient living. These rentals feature passive/solar heating and cooling, photovoltaic and wind power, catch water, grey water and black water treatment systems and recycled construction materials.

We offer seminars to provide in-depth, hands-on training in the methods and skills involved in building an Earthship and its mechanical systems.

EARTHSHIPS FOR RENT

We currently offer two Earthship nightly rentals in the Greater World Earthship Community. Started in 1994, the Greater World Community consists of 630 acres of rolling mesa with a deep gorge. It's an easy 15 minute drive from the town of Taos and features great views of the Sangre de Cristo Mountains and the Town of Taos. No pets please. Sorry, no refunds. Reservations may be transferred to another date if necessary.

Sloped Glass Two-Level Earthship

This is the first completed home in the Lemuria Gravel Pit Reclamation Project. This two level home with two bedrooms below and kitchen/living/dining upstairs demonstrates the latest Earthship technologies. Kiva fireplace TV/VCR, full kitchen, no phone. Sleeps four.

Nautilus Earthship

This unique floor plan is based on the chambered nautilus shell. This building is sited on the edge of a lava cliff overlooking a small gorge and exemplifies the latest in Earthship technology. Fully furnished, full kitchen, living, dining, no phone. Two sleeping lofts can accommodate up to four people.

Nightly Rental Rates:

1-2 people: $120 for the first night,
$90 for subsequent nights

3-4 people: $170 for the first night,
$120 for subsequent nights

Weekly Rental Rates:

1-2 people: $600

3-4 people: $800

Rates are higher during the holiday season.

To view pictures of these Earthship rentals see our WebSite at www.earthship.org.

EARTHSHIP SEMINAR SCHEDULE:

1999

April 16-18 July 9-11

May 14-16 September 17-19

Seminar Cost:

$350.00 per person $600.00 per couple

Once you make a seminar reservation, you are eligible for a 20% discount on all Earthship books, chronicles and videos!

EARTHSHIP SEMINARS

Michael Reynolds' Earthship seminars will be held throughout the Spring, Summer and Fall of 1999 in Taos, New Mexico. Seminars begin on Friday evening and end on the following Sunday afternoon. These seminars, given by Michael Reynolds and the SSA staff, are designed to provide in-depth, hands-on training in the methods and skills involved in building your own Earthship and its mechanical systems.

The itinerary for the weekend begins with dinner and an opening discussion of the concepts involved in the Earthship. The following day includes an Earthship tour, procedure and details discussion, on-site tire pounding, mudding, and can walls, and an evening slide show. Sunday is split between additional hands-on work, touring Earthships in progress and addressing individual applications. The systems discussed in Earthship Volume II, Earthship Volume III and the Earthship Chronicles are demonstrated and explained. Reviewing the Earthship books and chronicles prior to the seminar will help you get the most out of this weekend.

To reserve your seminar date, send a deposit of $100.00 per person, or call us to charge your Visa or MasterCard. Please include the names of those attending, address, phone #, and the seminar date you wish to attend. Make reservations early, as all dates fill up rapidly. Lodging, directions to the site and other relevant information will be provided after deposits are received. The seminar deposits are non-refundable, but you may switch your date at any time up to one week before your reserved date.

SOLAR SURVIVAL ARCHITECTURE

Solar Survival Architecture offers full architectural services from initial site consultation to permit assistance, to follow up. Our architectural drawings for Earthships include structural and mechanical details and are ready to submit for permit. When you purchase architectural drawings from us, you will receive three copies of the drawings: two sets are stamped for your building department, the third is a construction set for you or your
builder.

High Performance Earthship Drawings

Our Earthship High Performance Drawings represent twenty five years of experience with sustainable building techniques and integrated systems. These comprehensive pre-designed buildings are our most energy-efficient, economical and easiest to build Earthships. They are available in a variety of building sizes and styles including: sloped glass, vertical glass and hut.

High Performance Earthship Drawings

See our website at www.earthship.org. to view pictures of Sloped Glass, Vertical Glass and Hut Earthships.

To review our floor plan options order our High Performance Earthship worksheets or plan book.

Building

Solar Survival Architecture provides a range of project guidance services to help you build your Earthship. We can consult with you or your local builder on the phone or on site, send you an experienced foreman and/or experienced workers, contract to have your shell and systems built, or build your Earthship for you. We will match our experience with your needs.

Custom Designs and Retrofit

Any of the Earthship High Performance Drawings can be cus tomized to your specific needs. Our architects can also work with you to design a custom self-sufficient building or retrofit an existing one. Custom work and retrofit are billed at our hourly rates: principal $100, staff $60.

SLOPED GLASS EARTHSHIP

The Sloped Glass Earthship provides more sculptural rooms and greater variety of spaces than the Vertical Glass Earthship. Because every room surrounds you with thermal mass, the rooms are embracing. In some climates, this mass surrounding every room in addition to the sloped glass create a warmer building.

Square Footage Costs

The average contractor built construction costs for turn key Sloped Glass Earthships with independent systems is $100 per square foot. Larger floor plans tend to cost less per square foot. Owner/builders that build most of the Earthship themselves can complete these Earthships for around $70 per square foot.

Drawing Sets

Sloped Glass Earthship drawings include:

Six 24"X36" Architectural Blueprints showing an overview, floor plan, framing plan and sections of the building. This set is stamped with an architect's stamp and is suitable for permitting.

Thirty 24"X36" Architectural Blueprints is aimed at explicitly illustrating the various techniques and details throughout the building from excavation to mechanical systems.

VERTICAL GLASS EARTHSHIP

The Vertical Glass Earthship is our most economical, quickest and easiest to build self-sufficient building. Standard plans range in size from a 600 square foot studio to a three bedroom home. The economy and ease of construction are a result of prepackaged structural and mechanical components. Choose drawings for tire or strawbale/concrete block construction. Plans for single level and split level Vertical Glass Earthships are available.

Square Footage Costs

The average contractor built construction costs for turn key Vertical Glass Earthships with independent systems is $80 per square foot. Larger floor plans tend to cost less per square foot. With SSA building the shell and systems and the owner/builder completing the finishes, the average cost is $70 per square foot. Owner/builders that build most of the Earthship themselves can complete these Earthships for around $50 per square foot.

Drawing Sets

Vertical Glass Earthship drawings include:

Three 24"X36" Architectural Blueprints showing the structure and floor plans of the building. This set is stamped with an architect's stamp and is suitable for permitting.

One sixty page Detail Book This comprehensive resource shows an owner/builder or contractor close-up details including layout, excavation, carpentry, metal work, mechanical systems. Featuring material lists, support data and photographs. Easy to use book-size format.

HUT EARTHSHIP

Taking into consideration an immediate need for structures to provide quick and comfortable shelter, we've designed the Hut. These 16' diameter circles are like seeds, small, but containing all the elements required to ôgrowö larger, flourishing housing. They can be constructed extremely quickly. A crew of 6 people could enclose a Hut in one week. Designed to have either Ferro-cement domed roofs or flat framed ones, the Hut is adaptable to the affordability and availability of local materials. Contact us for further information.

SOLAR SURVIVAL PRESS

Effective Winter 1998

Prices include shipping and handling. Please allow 4-6 weeks for delivery. Extra postage for overseas mailing. Make checks payable to Solar Survival, or call us to charge your Visa or MasterCard. Thank you for your interest!

BOOKS

Earthship Volume I "How to Build Your Own" $26.95
 Basic construction of the self- sufficient tire homes
Earthship Volume II "Systems and Components" $26.95
 Plumbing, interior, photovoltaic panels, water systems
Earthship Volume III "Evolution Beyond Economics" $26.95
 High performance designs and systems, urban and community applications
A Coming of Wizards $14.95
 Metaphysical "Manual of Human Potential"

CHRONICLES

1 Grey Water Chronicle $8.00
 Grey Water containment, treatment and distribution systems
2 Catch Water Chronicle $8.00
 Catch Water containment, treatment and distribution systems
3 Black Water Chronicle $8.00
 Black Water containment, treatment and distribution systems
4 Mass vs. Insulation Chronicle $8.00
 Outlines the qualities of mass vs. insulation
5 Equipment Catalog $4.00
 Descriptions and prices of equipment for the Earthship w/pictures

VIDEOS

1 Dennis Weaver Earthship Video $29.95
 Good for getting permits
2 Earthship Next Generation Video $15.00
 A new look at Earthships
3 The Earthship Documentary $26.95
 History, philosophy, building techniques
4 From the Ground Up Video $26.95
 Sequenced building of an Earthship

PLUS...

1 Solar Survival Newsletter $5.00 each /$20 for one year subscription
2 Engineer's Tire Analysis $11.00
 Structural analysis of the Weaver Earthship tire construction
3 Solar Survival T-shirt $17.00
 The Sunburst logo in neon green on a 100% cotton green crew neck, L, XL

This document was designed and produced with power from the sun!
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E-mail CONSULTATION IS AVAILABLE FOR EARTHSHIP DESIGN, BUILDING, OR RETROFITTING GUIDANCE AT THE ABOVE ADDRESS WITH CREDIT CARD AUTORIZATION FOR $50 RETAINER. CONSULTATION RATE IS $50 PER HOUR

ARCHITECTURE

1 Vertical Glass Plan Option Book $10.00
    Features Vertical Glass Plan Options, specifications
2 Floor Plan Work Sheets $5.00 each/$15.00 for all three
    Please specify: Vertical Glass, Sloped Glass One Level, Sloped Glass Two Level

High Performance Vertical Glass Drawings

“Nest”   Studio, 600 sq ft $1,500
One Bedroom, One Bath, 800 sq ft $1,700
Two Bedroom, One Bath, 1150 sq ft $1,900
Two Bedroom, Two Bath, 1450 sq ft $2,100
Three Bedroom, Two Bath, 1650 sq ft $2,200
Two Bedroom, Two Bath, Garage, 1450 sq ft $2,400
Split Levels vary - a little more expensive

High Performance Sloped Glass One Level Drawings

Two Bedroom (3U), 1700 sq ft $5,000
Three Bedroom (4U), 2120 sq ft $6,000
Four Bedroom (5U), 2540 sq ft $7,000
Five Bedroom (6U), 3250 sq ft $8,000

High Performance Sloped Glass Two Level Drawings

Two Bedroom (3U), 1700 sq ft $6,000
Three Bedroom (4U), 2120 sq ft $7,000
Four Bedroom (5U), 2540 sq ft $8,000
Five Bedroom (6U), 3250 sq ft $9,000